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James Doyle Sell Mining Collection

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ASARCO

JDS

EXPLORATION DEPARTMENT

JAMES D. SELL
MANAGER

October 31, 1994

Mr. Lee Price
430 Palo Verde
Ajo, Arizona 85321

Childs Mountain Prospect
Sec. 7-8, T12S, R6W
West of Ajo District
Pima County, Arizona

Dear Mr. Price:

Your letter and packet of information to Mr. Quentin Browne of the Asarco Reno office has been retransmitted via Mr. P.G. Vikre, to me.

After reviewing the Tucson files and your submitted data, I must decline your invitation to continue a drilling program on your properties.

The weak alteration found in holes CDH-3 and -7 in the Cornelia quartz monzonite and attendant low grade copper values, with nil precious metal values, suggests the outer reaches of the mineralized system. The remaining holes, including the three by KCC, did not improve the outlook.

Thank you for submitting your prospect to Asarco.

I assume the main mass of quartz monzonite south of your claims is held by others and you were unable to test it?

Sincerely,

James D. Sell

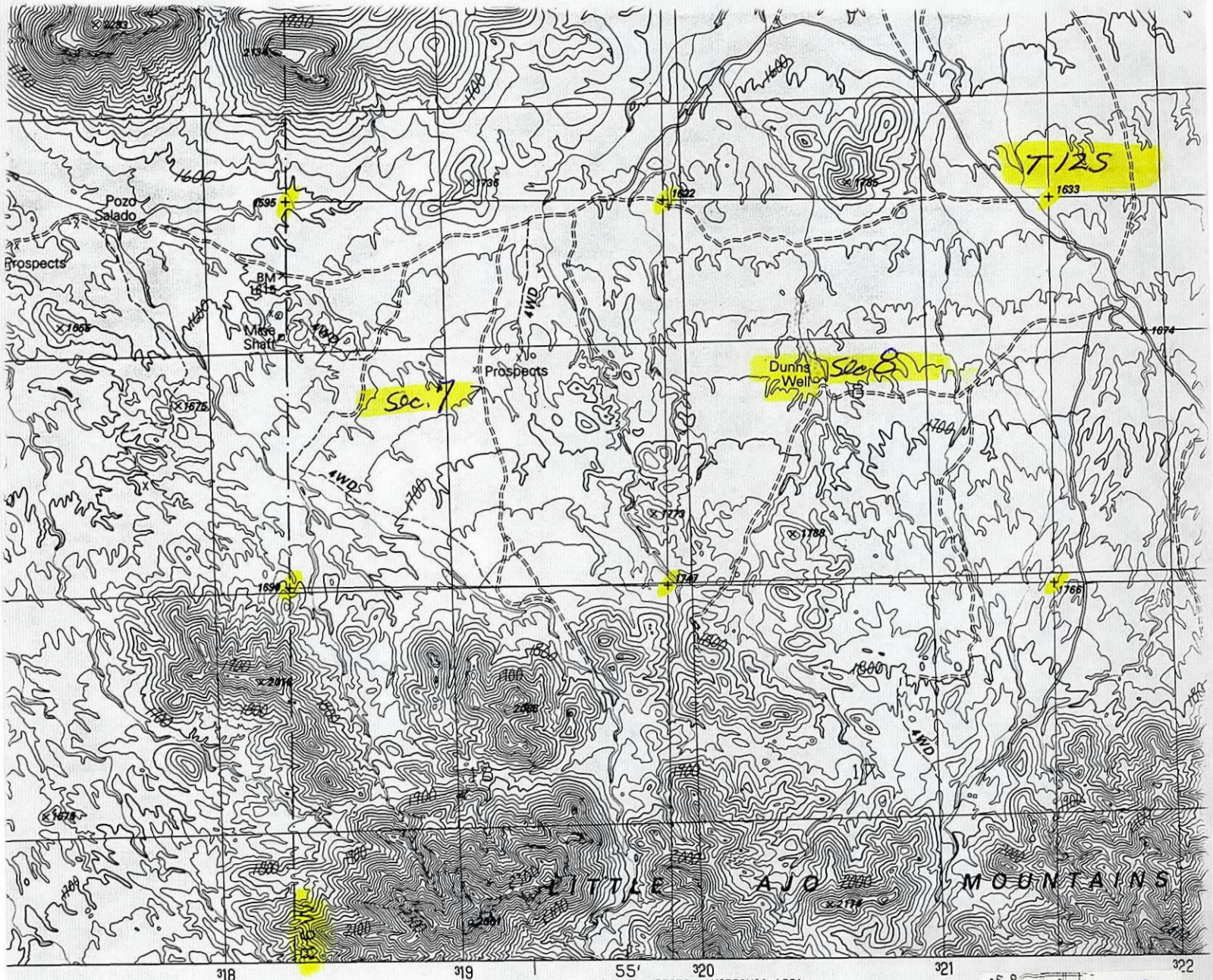
James D. Sell

JDS:mek

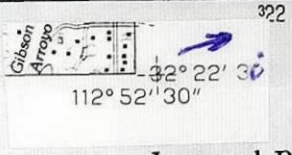
cc: P.G. Vikre (Reno)

packet sent back to Peter 11/7/94

ASARCO INCORPORATED P.O. BOX 5747 TUCSON, AZ 85703
1150 NORTH 7TH AVENUE (602) 792-3010



INTERIOR-GEOLOGICAL SURVEY, RESTON, VIRGINIA-1991



SCALE 1:24 000

0 KILOMETERS 1 2

0 METERS 1000 2000

0 1 MILES

3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 20 FEET

To convert feet to meters multiply by .3048
To convert meters to feet multiply by 3.2808

QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 East Pass
2 Midway SW
3 Deadman Gap
4 Growler Peak
5 Ajo North
6 Temporal Pass
7 Chico Shunie
8 Ajo South

ADJOINING 7.5' QUADRANGLE NAMES

Improved Ro
Unimproved
Trail . . . .

Interstate

CH

MPLIES WITH NATIO
J.S. GEOLOGICAL SU
OR RESTON, V

ROAD LEGEND

Improved Road . . . . . .
Unimproved Road . . . . . .
Trail . . . . . .

Interstate Route U.S. Route State Route

CHILDS MOUNTAIN, ARIZONA

PROVISIONAL EDITION 1990

32112-D8-TF-024

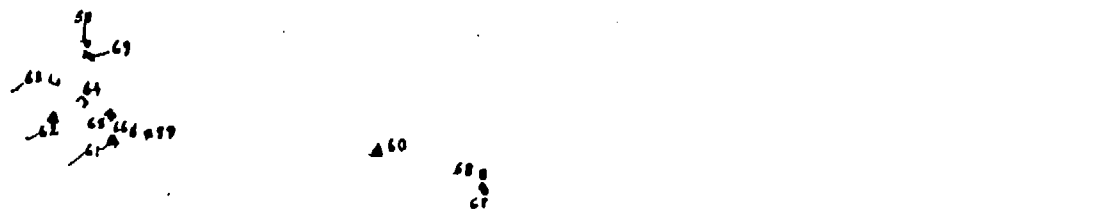
MR. QUENTIN BROWNE
510 EAST PLUMB LANE
RENO, NEVADA 89502

DEAR QUENTIN:

YOU WILL FIND ENCLOSED: LOC. MAP, GEO. MAP, DRILL HOLE LOC. MAP, AND ASSAYS. AS YOU REQUESTED. IF YOU NEED ANY OTHER DATA PLEASE LET ME KNOW.
I HAVE THE POWER OF ATTORNEY OF THE OTHER CLAIM HOLDERS IN THIS GROUP.
THE BOB AND RAY PRICE GROUPS, THE MOHON GROUP, THE GILLIAM GROUP, AND THE WRISTON GROUP.
I HAVE DUPLICATE SAMPLES TAKEN AT 5' INTERVALS. OF ALL OF THE HOLES I DRILLED
I ALSO HAVE THE SAMPLES KENNECOTT LEFT
KENNECOTT DRILLED 3 HOLES, THE 3rd HOLE ON WAYOUT #22 WAS A VERY LONG WAY FROM THE BONNIE LEE #10 AND THE RIGHTON #1
I SINCERELY HOPE YOU CAN CONVINCE ASARCO TO FURTHER EXPLORE THIS GROUP OF CLAIMS.

RESPECTFULLY YOURS:

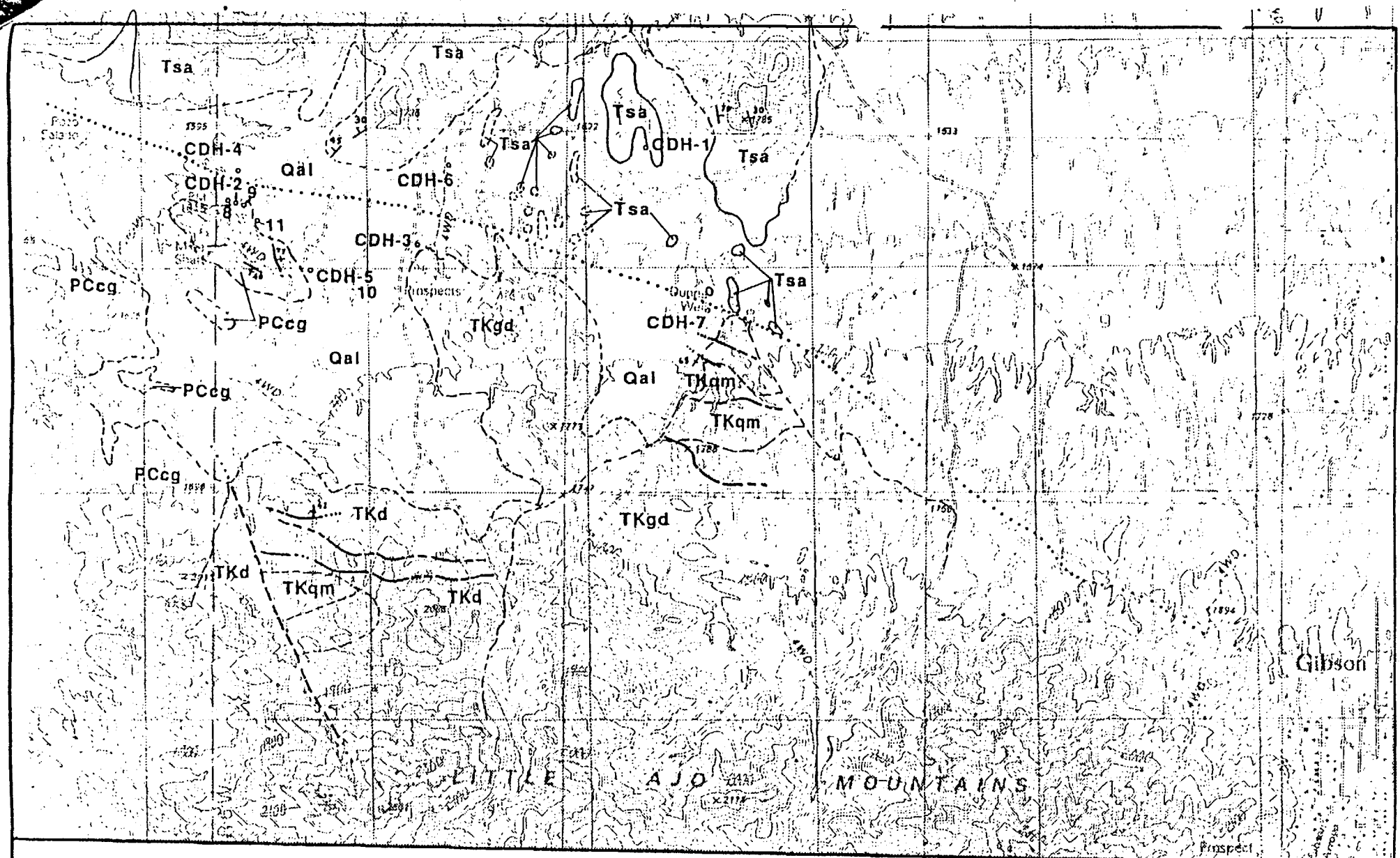
Lee Price



Rock chip sample
Dump sample

GEOCHEM OVERLAY
CHILDS MTN PROSPECT
AJO MINING DISTRICT
PIMA CO., ARIZONA

Joe Wilkins
April 7, 1993



EXPLANATION

Qal	Alluvium
Tsa	Sneed Andesite
	Cornelia qm
TKqm	productive phase
TKgd	granodiorite
TKd	diorite
PCcg	Cardigan gneiss

Scale 0 2000 4000 Feet

GEOLOGIC MAP
CHILDS MTN PROSPECT
AJO MINING DISTRICT
PIMA CO., ARIZONA

Joe Wilkins
March 1993

APPENDIX

DRILL HOLE SUMMARIES
CHILDS MTN PROSPECT
AJO AREA
PIMA COUNTY, ARIZONA

CDH-1 **TD: 180**

LOCATION: NW 1/4 Sec 8, T.12 S, R.6 W.

LITHOLOGY:
(cuttings only saved for select intervals)

0-180	Sneed andesite

ASSAYS:

Interval	Cu %	Au oz/t

No assays reported.

CDH-2 **TD: 180**

LOCATION: NW 1/4 Sec 8, T.12 S, R.6 W.

LITHOLOGY:

0-55	PC Cardigan gneiss
55-75	Rhyolite dike
75-210	PC Cardigan gneiss

ALTERATION:

0-55	Moderate epidote-chlorite, minor muscovite w/quartz
55-75	Weak sericite, mod clay alteration, hematite stain
75-90	Moderate epidote-chlorite, sericite+muscovite
90-130	Weak epidote-chlorite, stronger quartz-sericite, biotite stable.
130-180	Weak epidote/chlorite, with moderate sericite overprint.

MINERALIZATION:

0-55	Oxidized, minor CuOx present at 50'
55-75	Weak to modrate hematite stain replacing pyrite.
75-90	Oxidized, Hematite replcing py/cpy.
90-130	weak to moderated pyrite+chalcopyrite, strong magnetite.
130-180	Traces of sulfides with py>>cpy.

ASSAYS:

Interval	Cu %	Au oz/t
50-55	.12	
100-105	.17	
105-110	.61	

CDH-3 **TD: 80**

LOCATION: NE 1/4 Sec 7, T.12 S, R.6 W.

LITHOLOGY:

0-80	Cornelia qm, granodiorite phase

ALTERATION:

0-80	Strong epidote, moderate chlorite-all biotite altered to chlorite. May be weak sericite in feldspars.

MINERALIZATION:

0-80	Oxidized with scattered orange-brown hematite on fractures. Rock is shattered.

ASSAYS:

Interval	Cu %	Au oz/t
40-50	.04	
50-60	.02	0.005

Note: hole not assayed for every interval.

CDH-4 **TD: 120**

LOCATION: NW 1/4 Sec 7, T.12 S, R.6 W.

LITHOLOGY:

0-100	Alluvium, all volcanic clasts
100-120	Sneed andesite, (brown volcanic rock)
115	Fault gouge

ASSAYS:

Interval	Cu %	Au oz/t

No assays reported.

CDH-5 **TD: 185**

LOCATION: NW 1/4 Sec 7, T.12 S, R.6 W.

LITHOLOGY:

0-15	Alluvium
15-25	dike, intermediate, FG, slightly porphyrytic
25-45	PC Cardigan gneiss
45-85	dike, rhyodacite-latite, crowded groundmass, almost a micro-diabasic texture.
85-185	PC Cardigan gneiss.

ALTERATION:

15-25	Dike; moderate epidote
25-45	Oxidized, weak epidote-chlorite
45-85	Dike, strong epidote-chlorite especially on veins, mafics altered to chlorite. Strong epidote at lower contact.

85-185	Weak epidote-chlorite, streaky quartz-sericite, biotite stable.

MINERALIZATION:

15-25	Oxidized
25-45	Oxidized, Weak to very weak hematite stain replacing pyrite>>cpy.
45-85	Oxidized, veins & fault-veins with strong hematite replacing py>>cpy. Strong hematite after pyrite/cpy at lower contact. Magnetite.
85-185	Very low sulfide content, trace py>>cpy at 175-185. Magnetite.

ASSAYS:	Interval	Cu %	Au oz/t	Mo %
	180-185	.03	0.01	0.003

CDH-6 **TD: 80**

LOCATION: NE 1/4 Sec 7, T.12 S, R.6 W.

LITHOLOGY:

0-25	Alluvium, all volcanic clasts
25-80	Sneed andesite, (brown volcanic rock)

ASSAYS:	Interval	Cu %	Au oz/t

No assays reported.

CDH-7 **TD: 80**

LOCATION: Dunn's Well, center Sec 8, T.12 S, R.6 W.

LITHOLOGY:

0-10	Alluvium
10-80	Cornelia qm, biotite granodiorite phase

ALTERATION:

10-80	Weak to moderate epidote, moderate chlorite-all biotite altered to chlorite. May be weak sericite in feldspars.

MINERALIZATION:

0-80	Minor hypogene hematite and brown carbonate, magnetite. Rock is shattered.

ASSAYS:	Interval	Cu %	Au oz/t

Note: hole not assayed.

CDH-8 **TD: 160**

LOCATION: NW 1/4 Sec 8, T.12 S, R.6 W., 100 feet west of CDH-2.

LITHOLOGY:

0-60	PC Cardigan gneiss
60-70	Fault zone, Cardigan gneiss with dike slices, gouge at 70'.
70-85	Intermediate composition dike
85-160	PC Cardigan gneiss

ALTERATION:

0-40	Weak to moderate epidote-chlorite
40-70	Weak epidote-chlorite with streaky sericite overprint.
70-85	Moderate epidote-chlorite.
85-120	Weak to moderate epidote-chlorite, streaky sericite overprint.
120-160	Coarse-grained muscovite-sericite and biotite stable. Increasing chlorite 145-160.

MINERALIZATION:

0-40	Oxidized, weak hematite stain after py/cpy.
40-45	Very fine grained py, cpy with **visible gold.**
45-55	Oxidized, weak hematite replacing py/cpy.
55-70	Weak pyrite+chalcopyrite in gneiss.
70-85	Minor pyrite in dike.
85-90	No visible sulfides.
90-120	Strong sulfides, pyrite+chalcopyrite and tr galena at 90'.
120-160	Trace sulfides, weak magnetite.

ASSAYS: **Interval** **Cu %** **Au oz/t**

Note: no assay intervals.

CDH-9 **TD: 160**

LOCATION: NW 1/4 Sec 8, T.12 S, R.6 W., 100 feet east of CDH-2.

LITHOLOGY:

0-20	Alluvium
20-80	PC Cardigan gneiss with faulted dike slices.
80-105	Rhyolite dike
105-125	PC Cardigan gneiss
125-160	Dike, intermediate composition.

ALTERATION:

20-50	Weak to moderate epidote-chlorite, minor sericite overprint.
50-85	Weak epidote-chlorite with stronger sericite overprint.
85-105	Oxidized, weak clay+sericite.
105-120	Muscovite+biotite stable.
120-160	Moderate epidote-chlorite, epidote vein-veinlets present.

MINERALIZATION:

20-50	Oxidized, weak hematite stain after py/cpy.
50-85	Traces of py/cpy, magnetite.
85-105	Oxidized, weak to moderate hematite.
105-115	Trace pyrite+chalcopyrite in gneiss.
115-120	Contact: strong py+cpy, magnetite.
120-160	Trace sulfides, magnetite common.

ASSAYS:

Interval	Cu %	Au oz/t
145-160	0.02	

Note: not all intervals assayed.

CDH-10 **TD: 200**

LOCATION: NW 1/4 Sec 7, T.12 S, R.6 W., 25' east of CDH-5

LITHOLOGY

0-20	Alluvium
20-80	PC Cardigan gneiss
80-85	dike, mafic, VFG.
85-200	PC Cardigan gneiss

ALTERATION:

20-80	Moderate epidote-chlorite with streaky sericite overprint.
80-85	Oxidized, weak epidote-chlorite
85-200	Weak to moderate epidote-chlorite, streaky quartz-sericite. at 200' very dark chlorite with epidote and pyrite.

MINERALIZATION:

20-80	Oxidized, weak to very weak hematite stain replacing pyrite/cpy.
80-85	No visible sulfides.
85-200	Trace pyrite-chalcopyrite, visible sulfide at 95-105, 135, 150, and 200'.

ASSAYS:

Interval	Cu ppm	Au oz/t	Mo %
130-165	85 (avg)		

Note: hole not assayed for every interval.

Chemex Labs Inc.

Analytical Chemists * Geochemists * Registered Assayers
994 West Glendale Ave., Suite 7, Sparks,
Nevada, U.S.A. 89431
PHONE: 702-356-5395

To: KENNECOTT EXPLORATION CO.

P.O. BOX 11248
SALT LAKE CITY, UTA..
84147

Project : CHILDS MTN AZ.
Comments: ATTN:LINUS KEATING CC:JOE WILKINS

Page Number :1
Total Pages :1
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Invoice ... :19312279
P.O. Number :
Account :GJV

CERTIFICATE OF ANALYSIS A9312279

SAMPLE	PREP CODE		Au ppb FA+AA	Ag ppm Aqua R	As ppm	Cu ppm	Mo ppm	Hg ppb	Pb ppm	Sb ppm	Zn ppm	Bi ppm
46558C	205	226	< 5	< 0.2	1	3800	2	10	< 1	0.4	31	0.1
46559C	205	226	40	0.3	1	14	< 1	10	< 1	0.4	33	0.8
46560C	205	226	< 5	< 0.2	1	28	1	10	< 1	0.4	32	0.2
46561C	205	226	< 5	< 0.2	2	>10000	5	10	< 1	1.2	34	0.9
46562C	205	226	< 5	< 0.2	4	>10000	1	10	< 1	0.8	22	< 0.1
46563C	205	226	< 5	< 0.2	1	200	< 1	10	< 1	0.4	29	< 0.1
46564C	205	226	20	< 0.2	< 1	125	< 1	10	< 1	0.4	25	0.3
46565C	205	226	< 5	0.2	1	23	< 1	10	< 1	0.4	29	0.1
46566C	205	226	< 5	< 0.2	1	18	< 1	10	< 1	0.4	39	0.2
46567C	205	226	< 5	< 0.2	1	6	< 1	10	< 1	0.6	46	0.1
46568C	205	226	< 5	< 0.2	< 1	9	< 1	10	< 1	0.4	70	< 0.1
46569C	205	226	< 5	< 0.2	1	27	< 1	10	< 1	0.2	30	0.2

GEOCHEM SAMPLE ASSAYS

CERTIFICATION: Hart Bichler

Chemex Labs Inc.

Analytical Chemists * Geochemists * Registered Assayers

994 West Glendale Ave., Suite 7, Sparks,
Nevada, U.S.A. 89431
PHONE: 702-356-5395

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SALT LAKE CITY, UT/
84147

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Page Number : 1
Total Pages : 1
Certificate Date: 13-JUN-93
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P.O. Number :
Account : GJV

CERTIFICATE OF ANALYSIS A9315331

SAMPLE	PREP CODE		Au ppb FA+AA	Ag ppm Aqua R	As ppm	Cu ppm	Mo ppm	Hg ppb	Pb ppm	Sb ppm	Zn ppm	Bi ppm	Ba ppm			
49169 C	255	295	75	0.6	9	960	8	30	2350	0.4	102	2.5	480			
49170 C	255	295	< 5	< 0.2	3	19	2	20	2	0.4	16	0.3	1920			
49171 C	255	295	20	< 0.2	3	89	1	10	63	0.2	88	0.9	2700			
49172 C	255	295	< 5	< 0.2	1	6	< 1	10	< 1	0.4	44	< 0.1	90			
49173 C	255	295	< 5	< 0.2	< 1	6	< 1	10	< 1	0.2	29	< 0.1	90			
49174 C	255	295	< 5	< 0.2	< 1	4	< 1	10	< 1	< 0.2	7	< 0.1	200			
49175 C	255	295	< 5	< 0.2	5	35	2	10	17	0.2	65	< 0.1	1380			
49176 C	255	295	< 5	< 0.2	< 1	7	< 1	10	26	0.2	29	< 0.1	280			
49177 C	255	295	< 5	< 0.2	< 1	2	< 1	10	9	0.2	35	< 0.1	320			
49178 C	255	295	< 5	< 0.2	1	4	< 1	10	17	0.8	14	< 0.1	10			
49179 C	255	295	< 5	< 0.2	< 1	5	< 1	10	< 1	< 0.2	10	< 0.1	640			
49180 C	255	295	< 5	< 0.2	< 1	3	< 1	10	8	0.2	28	< 0.1	280			
49181 C	255	295	< 5	< 0.2	< 1	4	< 1	10	< 1	0.2	49	< 0.1	500			
49182 C	255	295	< 5	< 0.2	3	28	1	10	3	0.4	144	< 0.1	1620			
49183 C	255	295	< 5	< 0.2	1	103	3	30	4	0.4	33	1.4	500			
49184 C	255	295	< 5	0.2	3	133	3	40	22	< 0.2	51	0.9	1600			
49185 C	255	295	< 5	< 0.2	3	58	3	20	25	0.2	32	0.5	1580			
49186 C	255	295	< 5	< 0.2	7	23	2	20	7	0.4	55	0.1	1640			
49187 C	255	295	< 5	< 0.2	14	310	2	10	11	0.4	121	1.8	1800			
49188 C	255	295	< 5	< 0.2	9	165	2	10	4	0.2	153	1.4	1920			
49189 C	255	295	< 5	< 0.2	4	19	1	10	14	0.4	20	0.7	1900			
49190 C	255	295	< 5	< 0.2	1	4	< 1	10	< 1	0.6	10	0.1	70			
49191 C	255	295	< 5	< 0.2	15	18	< 1	10	5	0.4	31	0.5	640			
49192 C	255	295	< 5	< 0.2	< 1	3	< 1	10	< 1	0.2	24	0.2	4500			
49193 C	255	295	< 5	< 0.2	1	3	3	10	< 1	0.2	13	0.3	5000			
49194 C	255	295	< 5	< 0.2	11	9	4	70	< 1	0.4	10	2.6	1640			
49195 C	255	295	< 5	< 0.2	< 1	6	< 1	10	< 1	0.2	14	0.1	940			
49196 C	255	295	< 5	< 0.2	< 1	50	2	20	6	0.2	49	0.1	1640			
49197 C	255	295	< 5	< 0.2	< 1	12	1	10	4	< 0.2	26	< 0.1	1200			
49198 C	255	295	< 5	< 0.2	< 1	30	2	10	< 1	< 0.2	41	0.1	320			

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Page Number :1
Total Pa s :1
Certific. Date: 25-JUN 93
Invoice No. : 19315845
P.O. Number :
Account : GJV

CERTIFICATE OF ANALYSIS A9315845

SAMPLE	PREP CODE		Au ppb FA+AA	Ag ppm Aqua R	As ppm	Mo ppm	Hg ppb	Pb ppm	Sb ppm	Zn ppm	Bi ppm	Cu ppm
49199 C	255	295	< 5	< 0.2	6	1	550	< 1	< 0.2	24	0.2	35
49200 C	255	295	< 5	< 0.2	6	2	300	1	< 0.2	13	0.4	9

CERTIFICATION: DChristie

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Analytical Chemists * Geochemists * Registered Assayers
994 West Glendale Ave., Suite 7, Sparks,
Nevada, U.S.A. 89431
PHONE: 702-356-5395

Price Holes

To: KENNECOTT EXPLORATION CO.

P.O. BOX 11248
SALT LAKE CITY, UTAH
84147

Project : CHILDS MTN AZ.
Comments: ATTN:LINUS KEATING CC:JOE WILKINS

Page Number : 1
Total Pages : 1
Certificate Date: 30 MAR 93
Invoice No. : I9312280
P.O. Number :
Account : GJV

CERTIFICATE OF ANALYSIS A9312280

ILL HOLE	SAMPLE	Ft.	PREP CODE		Au ppb FA+AA	Ag ppm Aqua R	As ppm	Cu ppm	Mo ppm	Hg ppb	Pb ppm	Sb ppm	Zn ppm	Bi ppm
DH-5	46570C	155-160'	205	226	60	< 0.2	1	34	< 1	10	< 1	0.4	26	1.8
	46571C	160-165	205	226	< 5	< 0.2	< 1	22	< 1	10	< 1	0.4	200	0.8
	46572C	170-175	205	226	< 5	< 0.2	< 1	9	< 1	10	< 1	0.2	21	0.2
	46573C	175-180	205	226	< 5	< 0.2	< 1	144	< 1	10	< 1	0.4	26	0.5
DH-11	46574C	75-80	205	226	< 5	< 0.2	< 1	8	2	10	< 1	0.4	72	0.5
	46575C	80-85	205	226	< 5	< 0.2	< 1	12	1	10	< 1	0.2	62	0.2
	46576C	90-95	205	226	< 5	< 0.2	1	8	< 1	10	< 1	0.4	27	1.0
DH-8	46577C	35-40	205	226	5	< 0.2	1	132	< 1	10	< 1	0.4	42	0.2
	46578C	40-45	205	226	50	1.0	2	98	< 1	10	< 1	0.4	22	0.9
	46579C	90-95	205	226	10	< 0.2	< 1	17	< 1	10	< 1	0.4	21	0.2
	46580C	95-100	205	226	< 5	0.2	1	3800	< 1	10	< 1	0.2	24	0.1
	46581C	100-105	205	226	< 5	< 0.2	1	22	< 1	10	< 1	0.2	17	0.6
	46582C	105-110	205	226	< 5	< 0.2	< 1	38	< 1	10	< 1	0.4	40	0.2
	46583C	115-120	205	226	< 5	< 0.2	< 1	18	< 1	10	< 1	0.4	40	0.1
	46584C	125-130	205	226	< 5	< 0.2	< 1	8	< 1	10	1	< 0.2	9	0.5
DH-9	46585C	35-40	205	226	10	< 0.2	< 1	72	< 1	10	< 1	0.2	77	< 0.1
	46586C	40-45	205	226	< 5	< 0.2	< 1	5	< 1	10	< 1	0.2	55	< 0.1
	46587C	45-50	205	226	< 5	< 0.2	1	30	1	10	< 1	0.4	54	< 0.1
	46588C	85-90	205	226	< 5	< 0.2	1	< 1	2	10	< 1	0.2	45	0.1
	46589C	90-95	205	226	< 5	0.5	< 1	3	1	10	< 1	0.4	23	0.2
	46590C	95-100	205	226	< 5	< 0.2	< 1	4	< 1	10	< 1	0.2	47	< 0.1
	46591C	100-105	205	226	< 5	< 0.2	< 1	1	< 1	10	< 1	0.4	22	0.1
	46592C	110-115	205	226	< 5	< 0.2	1	3	< 1	10	< 1	0.4	75	0.2
	46593C	115-120	205	226	< 5	< 0.2	< 1	6	< 1	10	< 1	0.4	52	0.2
	46594C	120-125	205	226	10	3.0	1	24	1	10	< 1	0.2	49	0.7
	46595C	125-130	205	226	< 5	< 0.2	< 1	61	1	10	< 1	0.4	58	< 0.1
	46596C	130-135	205	226	< 5	< 0.2	1	6	1	10	< 1	0.2	78	6.2
	46597C	135-140	205	226	< 5	3.1	1	8	1	10	< 1	0.2	58	0.4

CERTIFICATION: Hart Bichler

KENNECOTT

GEOCHEMICAL SAMPLING

Sneed Ranch

PROJECT: ~~CHILDS MTN~~ AJO Area

GEOLOGIST: Joe Wilkins

DATE: 3/19/93

QUAD: Childs MTN 7½

COUNTY: [illegible] + Pima

STATE: ARIZONA

CH-channel
C-chip
R-rock
F-float
T-talus
D-dump
RC- rotary ch
HG-high grade
S-soil
St-stream sed

Sample Number	Location Sec.	T.	R.	Rock Description Comments	Type	Au (ppb)	Ag (ppm)	Hg (ppb)	As	Sb	Cu (ppm)	Pb	Zn	Mo	Bi
46570C	7	T 12S	R 6W	COH-5 155-160 -5 PEgn epi-chl w/ser Tr py-cpy-MT	RC	60		10	1	.4	34	<1	26	<1	1.1
71C				160-165 -5 PEgn. " " "	RC			10		.4	22		200		.1
72C				170-175 -5 PEgn. " " "	RC			10		.2	9		21	<1	.1
73C	7			175-180 -5 PEgn " " "	RC			10		.4	144		26	2	.1
74C	11			75-80 -11 PEgn epi/chl w/ser, wk py-cpy-mt	RC			10		.4	8		72	1	.1
75C	11			80-85 -11 PEgn " " "	RC			10		.2	12		62	<1	.
76C	11			90-95 -11 PEgn " " "	RC			10	1	.4	8		27		1.0
77C	7			35-40 -8 PEgn epi/chl w/ser wk-mod py-cpy-mt	RC	5		10	1	.4	132		42		.2
78C				40-45 -8 PEgn " visible Au. "	RC	50	1	10	2	.4	98		22		.5
79C				90-95 -8 PEgn. mod epi/chl, ser mod. py-cpy-mt	RC	10		10		.4	17		21		.2
80C				95-100 -8 PEgn. " " "	RC		.2	10	1	.2	38 00		24		.
81C				100-105 -8 PEgn " " "	RC			10	1	.2	38		17		.
82C				105-110 -8 PEgn " " "	RC			10		.4	38		40		.
83C				115-120 -8 PEgn " " "	RC			10		.4	18	<1	40		.
84C				125-130 -9 PEgn wk epi/chl Cc Muscv.-bio Tr py-cpy	RC			10			8	1	9		.
85C				35-40 -9 PEgn+ dike, Epi/chl, Ser, wk FeOx→Py	RC	10		10		.2	72	<1	77		<
86C				40-45 -9 PEgn+ dike " "	RC			10		.2	5		55	<1	
87C				45-50 -9 PEgn + dike " "	RC			10	1	.4	30		54	1	<
88C				85-90 -9 Rhyo dike, Oxidized Ser wk FeOx→Py	RC			10	1	.2	<1		45	2	.
89C				90-95 -9 Rhyo " " "	RC		.5	10		.4	3		23	1	.
90C				95-100 -9 Rhyo " " "	RC			10		.2	4		47	<1	<
91C				100-105 -9 Rhyo " " "	RC			10		.4	1		22		.
92C				110-115 -9 PEgn. muscv + bio	RC			10	1	.4	3		75		.
93C				115-120 -9 PEgn muscv + bio stg. py>cpy+ mt	RC			10		.4	6		52	<1	.

Sneed Ranch

KENNECOTT

GEOCHEMICAL SAMPLING

PROJECT: ~~CHILDS MTN~~ - AJO AREA

GEOLOGIST: JOE WILKINS

DATE: 3/19/93

QUAD: Childs Mtn 7½'

COUNTY: Pima

STATE: ARIZONA

CH-channel
C-chip
R-rock
F-float
T-talus
D-dump
RC- rotary chip
HG-high grade
S-soil
St-stream sed

Sample Number	Location Sec.	T.	R.	Rock Description Comments	Type	Au (ppb)	Ag (ppm)	Hg (ppb)	As	Sb	Cu (ppm)	Pb	Zn	Mo	Bi
6595C	7	T12S	R6W	COH-9 125-130 TKmd.tc. mod epi/chl Tr Py-Cpy-MT	RC	<5	<.2	10	<1	.4	61	<1	58	1	<.1
96C	7			=9 130-135 " " "	RC		<.2	10	1	.2	6		78	1	6.2
6597C	7	T12S	R6W	=9 135-140 " " "	RC	<5	3.1	10	1	.2	8	<1	58	1	.4

Sneed Ranch

KENNECOTT

GEOCHEMICAL SAMPLING

FOR LOCATIONS, SEE WILKINS MAP

PROJECT: ~~Childs Mtn~~ - AJO AREA
GEOLOGIST: JOE WILKINS
DATE: 3/17 - 3/19 / 1993

QUAD: Childs MTN 7½
COUNTY: Pima
STATE: ARIZONA

CH-channel
C-chip
R-rock
F-float
T-talus
D-dump
RC- rotary chi
HG-high grade
S-soil
St-stream sed

Sample Number	Location Sec.	T.	R.	Rock Description Comments	Type	Au (ppb)	Ag (ppm)	Hg (ppb)	As	Sb	Cu (ppm)	Pb	Zn	Mo	Bi
6558C	7	T12S	R6W	1Ft. N20E, 35E Silicified PEgn Cu Ox Epi/chl FeOx→Py/cpy	C	—		10	1	.4	3800	<1	31	2	.1
59C	7			17.5' N30-10W 77E Cuts PEgn gtzvn, Ser Slug. Chl FeOx→Py Cu Ox	C	40	.3	10	1	.4	14		33	<1	.8
60C	7			TKg, qdφ Stg epi Mafics→Chl, Tr FeOx→Py	D			10	1	.08	28		32	1	.2
61C	7	T12S	R6W	TKdike- PEgn Cnt. Eltzn qb Cu Ox - Chl - FeOx→cpy	D			10	2	1.2	>10,000		34	5	.9
62C	12	T12S	R7W	PEgn, K-spar+Musc+chl, Stg FeOx→Py Cu Ox	D			10	4	.4	>10,000		22	1	<.1
63C	12	T12S	R7W	50' S.C.C. PEgn, Fresh - Epi/chl, Minor qtz	C			10	1	.4	200		29	<1	<.1
64C	7	T12S	R6W	100' SCC PEgn. "	C	20		10	-1	.4	125		25		.3
65C	7			100' SCC PEgn, less epi	C		.2	10	1	.4	23		29		.1
66C	7			100' SCC PEgn Stg epi, Tr FeOx→Py	C			10	1	.4	18		39		.2
67C	7			100' SCC TKgd. Stg epi, hematite	C	.	.	10	1	.6	6		46		.1
68C	7			50' SCC TKgd v.Stg epi hematite	C			10	-1	.4	9		70		<.1
69C	7	T12S	R6W	50' SCC PEgn, Stg epi wk FeOx→Py	C			10	1	.2	27	<1	38	<1	.2

KENNECOTT

GEOCHEMICAL SAMPLING

PROJECT: SNEED RANCH
GEOLOGIST: KEATING
DATE: June, 93

QUAD: CHILDS MTN 7.5
COUNTY: PIMA
STATE: AZ

FOR LOCATIONS, SEE LARGE MYLAR MAP.

CH-channel
C-chip
R-rock
F-float
T-talus
D-dump
RC-rotary c
HQ-high grad
S-soil
St-stream se

Sample Number	Location Sec. T. R.	Rock Description Comments	Type	Au (ppb)	Ag (ppm)	As	Hg	Sb	Ba	Cu	Pb	Zn
2169C	x	CO_2 altd diorite: qtz, spec, epd; hem	D	75	.60	9	30	.4	480	960	2350	10
70		blx, Arg. rhyolite; diss py	R	<5	<.2	3	20	.4	1920	19	2	1
71	x	sheared diorite; qtz vns, py	R	20	<	3	10	.2	2700	89	63	8
72		intense shear intrusive; ep, spec	R	<	<	1	10	.4	90	6	<1	4
73		qtz diorite; chl, spec, cal, hem	R	<	<	<1	10	.2	90	6	<	2
74		qdiorite cut by qmp; wk chl	R	<	<	<	10	<.2	200	4	<	
75	x	andesite porph; chl, ep; sheared	R	<	<	5	10	.2	1380	35	17	6
76		monz porph - chl, ep, act; hem	R	<	<	<	10	.2	280	7	26	2
77		hnbd porph, chl, ep, hem→py	R	<	<	<	10	.2	320	2	9	3
78		and. porph, ep, chl, bt?	R	<	<	1	10	.8	10	4	17	1
79		qtz diorite 5-10% hem→py	R	<	<	<1	10	<	640	5	<	1
80		" " " ep vns; bt, hem	R	<	<	<	10	.2	280	3	8	7
81		CDH 10 185-90 (TD)	RC	<	<	<	10	.2	500	4	<	4
82	x	CDH 7 75-80' (TD)	RC	<	<	3	10	.4	1620	28	3	14
83	x	CDH 12 45-50 (TD)	RC	<	<	1	30	.4	500	103	4	3
84	x	mafic dike; comby qtz	R	<	.20	3	40	<	1600	133	22	5
85	x	Kspar granite (mega xl) in q.s.c.; tuff	R	<	<	3	20	.2	1580	58	25	3
86	x	c.g. rhyolite; qtz vn; hem	R	<	<	7	20	.4	1640	23	7	5
87	x	and. porph: bx, silicified, s-2	R	<	<	14	10	.4	1800	310	11	12
88	x	gossan after and porph?; qtz	R	<	<	9	10	.2	1920	165	4	15
89		Tvolc rhyolitic; py casts	R	<	<	4	10	.4	1900	19	14	2
90		monz porph; ep, chl, qtz; limon	R	<	<	1	10	.6	70	4	<	1
91		chl-qtz gn; jarositic mgt	R	<	<	15	10	.4	640	18	5	31
92		dio porph detachment flt; limon	R	<	<	<	10	.2	4500	3	<	21
1930		" " " "; chl, ep, spec	R	<	<	1	10	.2	5000	3	<	13

KENNECOTT

GEOCHEMICAL SAMPLING

OJECT: SNEED RANCH
OLOGIST: LTK
TE: 6/93

QUAD: CHILDS MTN 7.5
COUNTY: PIMA
STATE: AZ

Ch-channel
C-chip
R-rock
F-float
T-talus
D-dump
RC- rotary ch
HG-high grade
S-soil
St-stream sed

mple mber	Location Sec. T. R.	Rock Description Comments	Type	Au (ppb)	Ag (ppm)	As	Hg	Sb	Cu	Mo	Pb	Zn
194C		shear zone/detachment; CO3, silica, py	R	<5	<.2	11	70	.4	9	4	<1	10
95		granite mylonite; hem	R	<	<	<1	10	.2	6	<1	<	14
96	x	qdio porph. chl, q-ep, hem	R	<	<	<	20	.2	50	2	6	49
97		granite mylonite; Kgp, hem	R	<	<	<	10	<	12	1	4	26
98	x	?	R	<	<	<	10	<.2	30	2	<	41
99		monz porph; act, chl, ep; hem	R	<	<	6	550	<	35	1	<	24
200C		bt qtz monz; ser, hem	R	<	<	6	300	<	9	2	1	13

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Describe Any Existing Surface Disturbance, Roads and Structures (i.e., mine and mill facilities, workings, tailings, dump area, etc.). You may wish to document disturbance existing prior to beginning work on your operation (in the form of photographs, surface maps, or testimony) in order to reduce your reclamation liability:

NUMEROUS OLD ROADS, 4x4 TRACKS, & DRILL HOLES exist ON THE PROPERTY. THE MOST PROMINENT DISTURBANCE IS SHOWN ON THE ATTACHED 7.5' TOPO SHEET.

Proposed Reclamation: Describe your proposed reclamation procedures (i.e., recontouring, backfilling excavations, removal of structures and equipment, replacing stockpiled topsoil, etc.).

SITES WILL BE CLEANED OF ALL LITER & RAKED TO COVER DRILL CUTTINGS. VEGETATION IS QUITE SPARSE — RESEEDING WILL NOT BE NECESSARY.

I will complete all necessary reclamation of areas disturbed during the course of my operations to the standards described in 43 CFR 3809.1-3(d) and reasonable measures will be taken to prevent unnecessary or undue degradation of the Federal lands during operations.

Signature of Operator: [signature] Date: 6/10/93

NOTICE TO OPERATORS:

1. You must notify the BLM at least 15 calendar days prior to commencing operations of 5 acres or less on BLM land. The BLM has 15 days to review the above information.

2. A notice must comply with the 43 CFR 3809 regulations. Completing all sections of this suggested format should satisfy this requirement. Incomplete notices may be returned for more information.

3. It is BLM's policy to perform a minimum of one compliance inspection per year on each notice submitted by an operator.

4. Any changes to the proposed operations require the submittal of an amendment to this notice.

United States
Department of the Interior
Bureau of Land Management (BLM)
2015 West Deer Valley Road
Phoenix, AZ 85027
(602) 780-8090

SUGGESTED FORMAT:

NOTICE of operations proposed under the 43 CFR 3809 surface management regulations. (operations of 5 acres or less surface disturbance).

Instructions: Complete the following in as much detail as possible. Additional sheets may be used if necessary. Use maps or sketches and/or photographs where appropriate. A review of the 43 CFR 3809 regulations should be conducted prior to your submission of this Notice or Notice Amendment to this office.

Claimant Information:

Name	Address	Telephone
Lee PRICE, et al.	430 PALO VERDE, AJO, AZ 85321	602-

Operator Information:

Name	Address	Telephone
LINUS KEATING for KENNECOTT EXPLORATION	1515 MINERAL SQ SLC, UT 84112	801-322-8414

Is Claimant aware of your proposed activities? (Check One) Yes X No ____

Claim Name and BLM Serial No. (AMC #'s) WAY OUT #8 (32078); WAY OUT #6 (32076); WAY OUT #22 (32092); WAY OUT #16 (32086).

Location of Proposed Activity: T. 12S, R. 6W, Sections 5,7,8.

U.S.G.S. Topographic Map CHILDS MTN, AZ

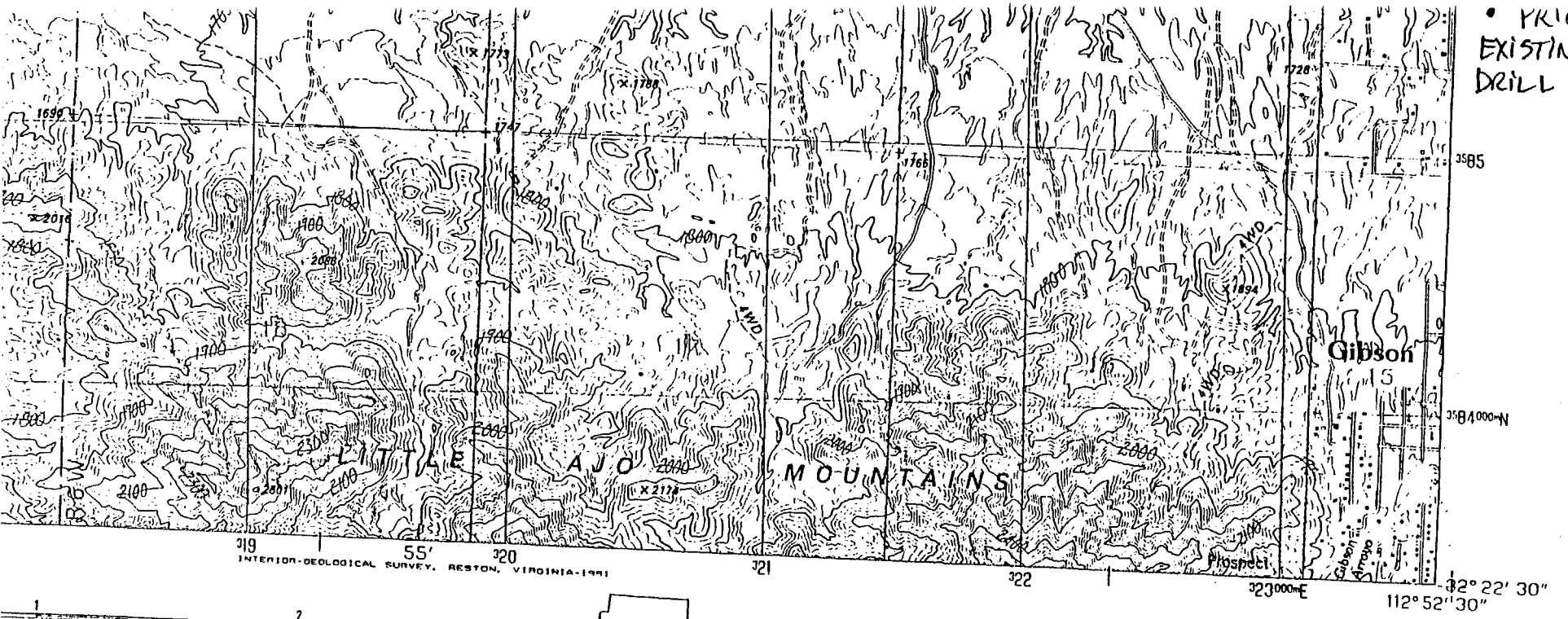
Proposed Period of Operation: FROM 6/28/93 TO: 7/31/93

Proposed Operations:

Describe the entire proposed operation, including all surface disturbing activities, i.e., road construction or upgrading, drilling, trenching, backhoe or bulldozer exploration, mining, waste disposal, installation of temporary structures, impoundments, holding tanks, processing equipment, etc. List all mechanized earth moving equipment to be used during the operation and list any explosives or chemicals to be used. Calculate the total acreage proposed for disturbance (1 acre = 43,560 sq. ft.). (Additional sheets may be used if necessary.)

DRILL (4), 5¼" diameter, Reverse circulation holes using a TRUCK MOUNTED DRILL RIG. NO PAD CONSTRUCTION WILL BE NECESSARY. HOLES WILL BE DRILLED ON EXISTING ROADS, & 4x4 TRACKS. MAXIMUM DEPTH WILL BE 700'. MAXIMUM DISTURBANCE ANTICIPATED WILL BE LESS THAN 4000 SQ FEET. GREAT CARE SHALL BE TAKEN NOT TO DISTURB ANY BARRELL OR SAHUARO OR SIMILAR CACTI.

• PRICE
EXISTING
DRILL HOLE



1 2
1000 2000

6000 7000 8000 9000 10000

EET
.3048
3.2808

CURACY STANDARDS
VER, COLORADO 80225
992

QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 East Pass
2 Midway SW
3 Deadman Gap
4 Growler Peak
5 Ajo North
6 Temporal Pass
7 Chico Shunle
8 Ajo South

ADJOINING 7.5' QUADRANGLE NAMES

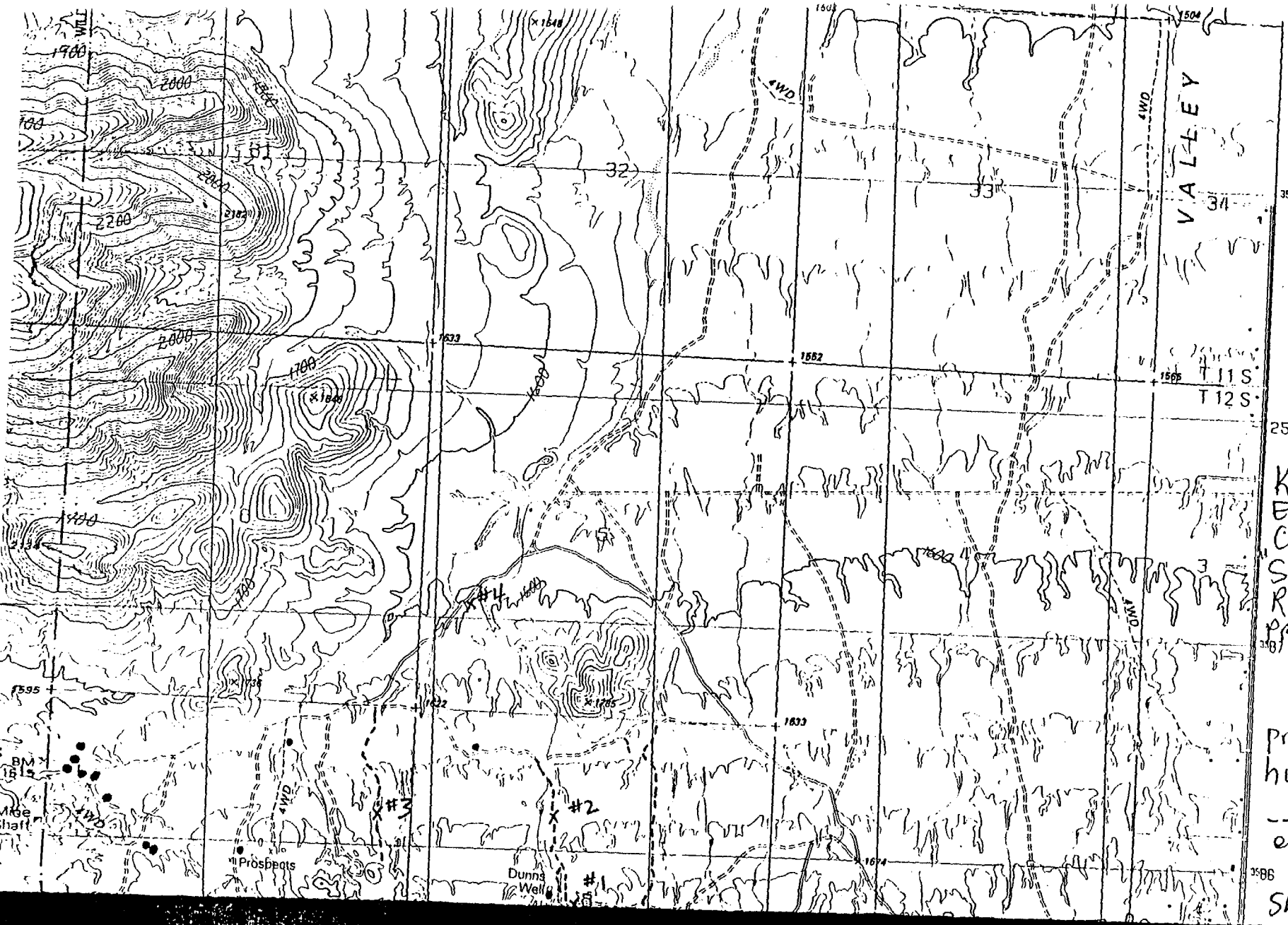
ROAD LEGEND

Improved Road . . . . . .
Unimproved Road . . . . . .
Trail . . . . . .

Interstate Route U.S. Route State Route

CHILDS MOUNTAIN, ARIZONA
PROVISIONAL EDITION 1990

32112-D8-TF-024



KENNECOTT EXPLORATION CO.: SNEED RANCH PROJECT"

X #1 = proposed hole #1.

--- = existing road not shown on

PRELIMINARY REPORT

Sneed Ranch

NOTE: NO ASSAYS RUN FOR SR-2

REPORT : SP 023923

Sample	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm
AZ-93SR1 0-5	<0.5	21	<5	14	44
AZ-93SR1 5-10	<0.5	15	<5	11	DTF 309
AZ-93SR1 10-15	<0.5	13	<5	6	38
AZ-93SR1 15-20	<0.5	9	<5	<5	66
AZ-93SR1 20-25	<0.5	11	<5	7	DTF 418
AZ-93SR1 25-30	<0.5	10	<5	7	220 X
AZ-93SR1 30-35	<0.5	11	<5	6	106 X
AZ-93SR1 35-40	<0.5	11	<5	6	71
AZ-93SR1 40-45	<0.5	11	<5	<5	108 X
AZ-93SR1 45-50	<0.5	9	<5	<5	74
AZ-93SR1 50-55	<0.5	5	<5	5	88
AZ-93SR1 55-60	<0.5	11	<5	5	47
AZ-93SR1 60-65	<0.5	14	<5	6	83
AZ-93SR1 65-70	<0.5	14	<5	9	50
AZ-93SR1 70-75	<0.5	9	<5	15	46
AZ-93SR1 75-80	<0.5	10	<5	13	42
AZ-93SR1 80-85	<0.5	9	<5	14	DTF 640
AZ-93SR1 85-90	<0.5	6	<5	5	63
AZ-93SR1 90-95	<0.5	5	<5	5	63
AZ-93SR1 95-100	<0.5	3	<5	<5	76
AZ-93SR1 100-105	<0.5	7	<5	6	68
AZ-93SR1 105-110	<0.5	6	<5	5	65
AZ-93SR1 110-115	<0.5	6	<5	5	57
AZ-93SR1 115-120	<0.5	4	<5	6	60
AZ-93SR1 120-125	<0.5	5	<5	13	104 X

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 023923

Sample	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm
AZ-93SR1 125-130	<0.5	4	<5	<5	56
AZ-93SR1 130-135	<0.5	4	<5	<5	66
AZ-93SR1 135-140	<0.5	8	<5	5	53
AZ-93SR1 140-145	<0.5	22	<5	5	103 X
AZ-93SR1 145-150	<0.5	22	<5	5	40
AZ-93SR1 150-155	<0.5	18	<5	6	29
AZ-93SR1 155-160	<0.5	17	<5	5	21
AZ-93SR1 160-165	<0.5	20	<5	7	97
AZ-93SR1 165-170	<0.5	29	<5	6	59
AZ-93SR1 170-175	<0.5	33	<5	6	43
AZ-93SR1 175-180	<0.5	17	<5	5	50
AZ-93SR1 180-185	<0.5	13	<5	7	81
AZ-93SR1 185-190	<0.5	11	<5	9	59
AZ-93SR1 190-195	<0.5	9	<5	7	54
AZ-93SR1 195-200	<0.5	14	<5	8	55
AZ-93SR1 200-205	<0.5	9	<5	7	51
AZ-93SR1 205-210	<0.5	7	<5	8	42
AZ-93SR1 210-215	<0.5	6	<5	6	42
AZ-93SR1 215-220	<0.5	5	<5	7	45
AZ-93SR1 220-225	<0.5	16	<5	5	47
AZ-93SR1 225-230	<0.5	5	<5	<5	64
AZ-93SR1 230-235	<0.5	5	<5	5	69
AZ-93SR1 235-240	<0.5	9	<5	5	65
AZ-93SR1 240-245	<0.5	13	<5	<5	52
AZ-93SR1 245-250	<0.5	8	<5	<5	46

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 023923

Sample	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm
AZ-93SR1 250-255	<0.5	8	<5	19	53
AZ-93SR1 255-260	<0.5	6	<5	6	57
AZ-93SR1 260-265	<0.5	9	<5	<5	73
AZ-93SR1 265-270	<0.5	15	<5	<5	43
AZ-93SR1 270-275	<0.5	13	<5	5	37
AZ-93SR1 275-280	<0.5	4	<5	6	86
AZ-93SR1 280-285	<0.5	5	<5	5	79
AZ-93SR1 285-290	<0.5	5	<5	5	72
AZ-93SR1 290-295	<0.5	5	<5	6	52
AZ-93SR1 295-300	<0.5	5	<5	<5	51
AZ-93SR1 300-305	<0.5	4	<5	5	48
AZ-93SR1 305-310	<0.5	5	<5	5	43
AZ-93SR1 310-315	<0.5	5	<5	5	50
AZ-93SR1 315-320	<0.5	4	<5	5	47
AZ-93SR1 320-325	<0.5	4	<5	7	45
AZ-93SR1 325-330	<0.5	6	<5	6	51
AZ-93SR1 330-335	<0.5	7	<5	<5	47
AZ-93SR1 335-340	<0.5	6	<5	5	49
AZ-93SR1 340-345	<0.5	8	<5	5	61
AZ-93SR1 345-350	<0.5	5	<5	<5	54
AZ-93SR1 350-355	<0.5	4	<5	5	38
AZ-93SR1 355-360	<0.5	6	<5	<5	33
AZ-93SR1 360-365	<0.5	5	<5	5	43
AZ-93SR1 365-370	<0.5	5	<5	5	46
AZ-93SR1 370-375	<0.5	3	<5	5	56

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 023923

Sample	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm	
AZ-93SR1 375-380	<0.5	8	<5	<5	122	
AZ-93SR1 380-385	<0.5	5	<5	<5	56	
AZ-93SR1 385-390	<0.5	11	<5	<5	164 X	
AZ-93SR1 390-395	<0.5	11	<5	<5	107 X	
AZ-93SR1 395-400	<0.5	12	<5	<5	171 X	SR-1
AZ-93SR3 0-5	<0.5	18	<5	7	42	
AZ-93SR3 5-10	<0.5	18	<5	7	43	SR-3
AZ-93SR3 10-15	<0.5	15	<5	5	50	
AZ-93SR3 15-20	<0.5	14	<5	6	59	
AZ-93SR3 20-25	<0.5	11	<5	6	168 X	
AZ-93SR3 25-30	<0.5	10	<5	6	~~[illegible]~~ 115	
AZ-93SR3 30-35	<0.5	18	<5	<5	37	
AZ-93SR3 35-40	<0.5	17	<5	5	53	
AZ-93SR3 40-45	<0.5	14	<5	5	90	
AZ-93SR3 45-50	<0.5	9	<5	5	66	
AZ-93SR3 50-55	<0.5	10	<5	<5	49	
AZ-93SR3 55-60	<0.5	8	<5	<5	47	
AZ-93SR3 60-65	<0.5	17	<5	13	37	
AZ-93SR3 65-70	<0.5	21	<5	6	29	
AZ-93SR3 70-75	<0.5	20	<5	5	13	
AZ-93SR3 75-80	<0.5	20	<5	<5	20	
AZ-93SR3 80-85	<0.5	18	<5	5	50	
AZ-93SR3 85-90	<0.5	7	<5	5	52	
AZ-93SR3 90-95	<0.5	6	<5	6	39	
AZ-93SR3 95-100	<0.5	8	<5	<5	54	

Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 023923

Sample	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm
AZ-93SR3 100-105	<0.5	4	<5	7	104 X
AZ-93SR3 105-110	<0.5	19	<5	7	60
AZ-93SR3 110-115	<0.5	6	<5	6	101 X
AZ-93SR3 115-120	<0.5	4	<5	<5	84
AZ-93SR3 120-125	<0.5	7	<5	<5	55
AZ-93SR3 125-130	<0.5	6	<5	<5	59
AZ-93SR3 130-135	<0.5	8	<5	8	64
AZ-93SR3 135-140	<0.5	9	<5	<5	71
AZ-93SR3 140-145	<0.5	12	<5	6	91
AZ-93SR3 145-150	<0.5	9	<5	6	57
AZ-93SR3 150-155	<0.5	9	<5	6	73
AZ-93SR3 155-160	<0.5	10	<5	<5	79
AZ-93SR3 160-165	<0.5	9	<5	<5	93 X
AZ-93SR3 165-170	<0.5	9	<5	5	64
AZ-93SR3 170-175	<0.5	9	<5	5	49
AZ-93SR3 175-180	<0.5	9	<5	<5	54
AZ-93SR3 180-185	<0.5	8	<5	<5	89
AZ-93SR3 185-190	<0.5	13	<5	5	80
AZ-93SR3 190-195	<0.5	6	<5	5	74
AZ-93SR3 195-200	<0.5	9	<5	5	63
AZ-93SR3 200-205	<0.5	5	<5	<5	79
AZ-93SR3 205-210	<0.5	4	<5	<5	100 X
AZ-93SR3 210-215	<0.5	5	<5	<5	104 X
AZ-93SR3 215-220	<0.5	7	<5	5	61
AZ-93SR3 220-225	<0.5	8	<5	5	56

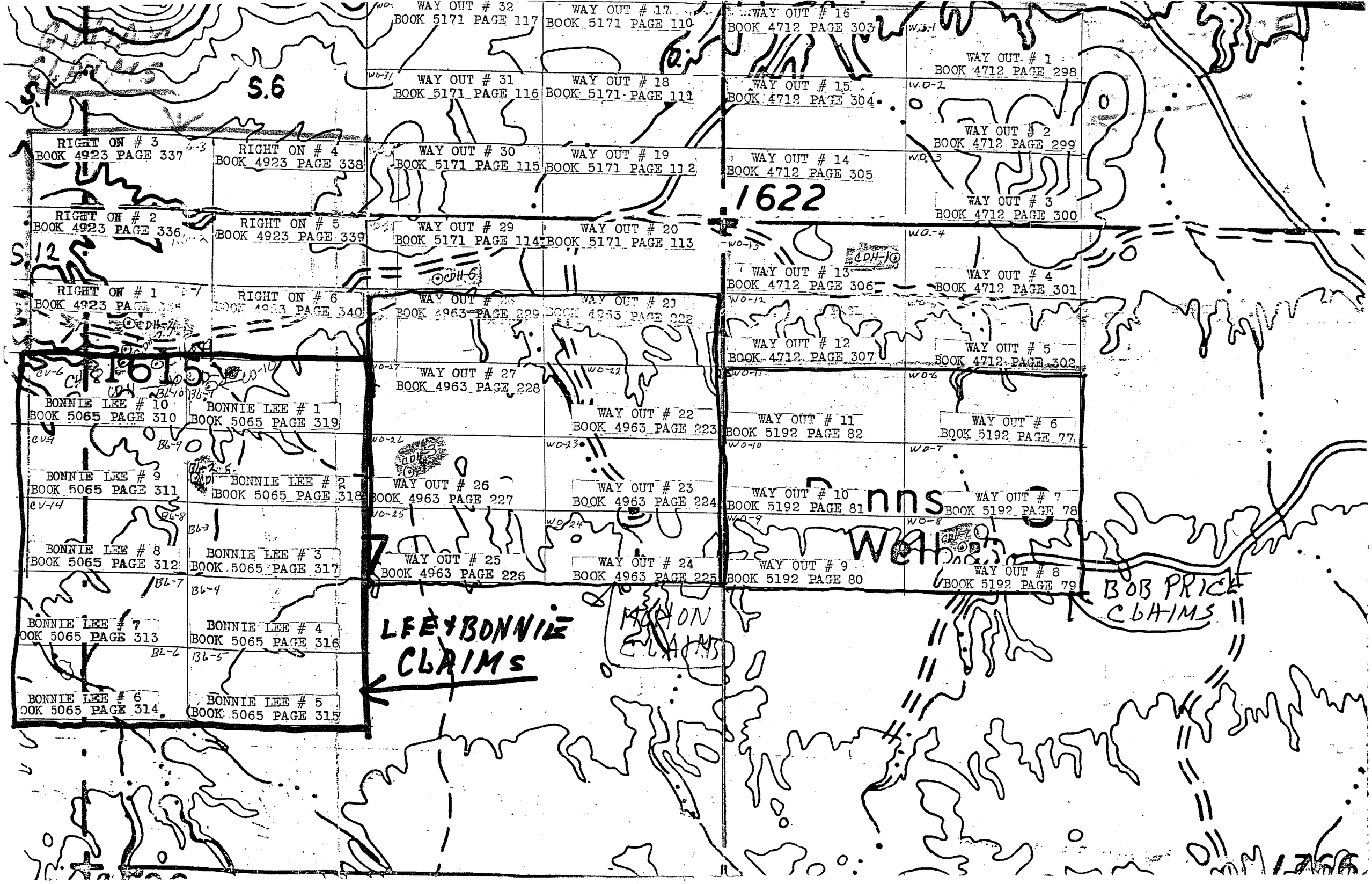
Please refer to the cover sheet for further analysis details.

PRELIMINARY REPORT

REPORT : SP 023923

Sample	Ag ppm	Cu ppm	Mo ppm	Pb ppm	Zn ppm
AZ-93SR3 225-230	<0.5	10	<5	5	43
AZ-93SR3 230-235	<0.5	8	<5	5	34
AZ-93SR3 235-240	<0.5	11	<5	6	46
AZ-93SR3 240-245	<0.5	9	<5	<5	39
AZ-93SR3 245-250	<0.5	11	<5	<5	26
AZ-93SR3 250-255	<0.5	11	<5	<5	39
AZ-93SR3 255-260	<0.5	9	<5	<5	27
AZ-93SR3 260-265	<0.5	8	<5	<5	67
AZ-93SR3 265-270	<0.5	9	<5	<5	61
AZ-93SR3 270-275	<0.5	10	<5	<5	50
AZ-93SR3 275-280	<0.5	15	<5	<5	63
AZ-93SR3 280-285	<0.5	6	<5	<5	54
AZ-93SR3 285-290	<0.5	9	<5	<5	46
AZ-93SR3 290-295	<0.5	8	<5	<5	53
AZ-93SR3 295-300	<0.5	8	<5	<5	57
AZ-93SR3 300-305	<0.5	10	<5	<5	57
AZ-93SR3 305-310	<0.5	22	<5	<5	37
AZ-93SR3 310-315	<0.5	25	<5	<5	43
AZ-93SR3 315-320	<0.5	26	<5	<5	36
AZ-93SR3 320-325	<0.5	21	<5	<5	45
AZ-93SR3 325-330	<0.5	11	<5	<5	99 X
AZ-93SR3 330-335	<0.5	21	<5	<5	53
AZ-93SR3 335-340	<0.5	16	<5	<5	55

Please refer to the cover sheet for further analysis details.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WAY OUT # 31
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RIGHT ON # 4
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BOOK 5171 PAGE 112
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1622
WAY OUT # 3
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RIGHT ON # 5
BOOK 4923 PAGE 339
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BOOK 5171 PAGE 113
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BOOK 5065 PAGE 310
BONNIE LEE # 1
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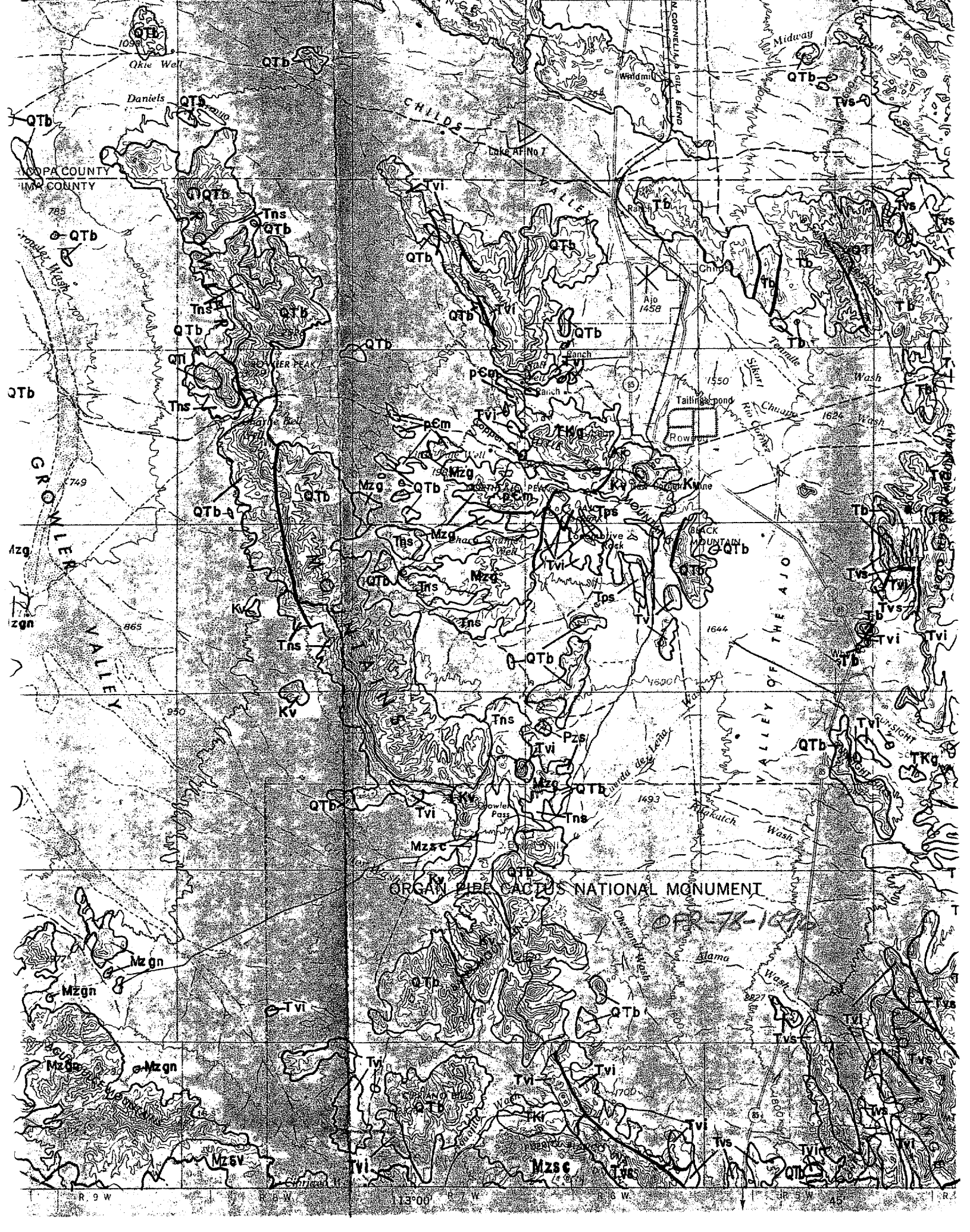
BOOK 5065 PAGE 315
LEE & BONNIE CLAIMS
MORON CLAIMS
BOB PRICE CLAIMS


ORGAN PIPE CACTUS NATIONAL MONUMENT
OPR-78-1690
PIMA COUNTY
CHILDS VALLEY
GROWLER VALLEY
VALLEY OF THE AJO
Growler Peak
Black Mountain
Ajo
Rowe
Tailings pond
Lake AF No 7
Windmill
Midway
Daniels
Okie Well
Alamo
Wash
R 9 W
R 8 W
113°00'
R 7 W
R 6 W
R 5 W
45'

K-AR AGES OF VOLCANIC ROCKS NEAR AJO, PIMA, AND MARICOPA COUNTIES, SOUTHWESTERN ARIZONA

By Robert J. Miller, Floyd Gray, Richard M. Tosdal, and Edwin H. McKee

The volcanic field near Ajo, Arizona (fig. 1), is a tripartite constructional volcanic field composed predominantly of Tertiary lavas that include the entire compositional range between basalt and rhyolite. These rocks outcrop over an area of approximately 5,000 km^2 extending from the Mexican border to just north of U.S. Interstate Highway 8 and from the Growler and Aguila Mountains on the west to the Vekol-San Simon valleys on the east. Scattered Tertiary volcanic rocks farther east (Dockter and Keith, 1977; Rytuba and others, 1978; Briskey and others, 1979); are considered older than and apparently not related to those described here. Previous mapping in the area is of reconnaissance nature and is summarized on the Geologic Map of Arizona (Wilson and others, 1969). Much of the area lies within restricted access areas of Luke Air Force Range. A limited number of K-Ar ages of Tertiary rocks in the area have been published by Shafiquallah and others (1980), Eberly and Stanley (1978), Jones (1974), and Tosdal (1979).

We report here 13 new K-Ar ages from volcanic rocks of the Ajo volcanic field samples as part of the USGS Ajo 2° by 1° CUSMAP project. The dates are used in the study of the volcanic stratigraphy of the area and were selected because they define the age range of units within each of the tripartite sections. A more detailed compilation of isotopic age dates for the volcanic field is currently in progress (Miller and others, in prep.).

Geological Discussion

The Tertiary rocks of the Ajo volcanic field rest upon an extensive erosional unconformity cut on granitic and metamorphic rocks ranging in age from Proterozoic to early Tertiary (Haxel and others, 1980). Tertiary volcanic rocks in the area are divided into 3 sequences separated by angular unconformities: (1) the oldest sequence is late Oligocene to early Miocene in age and consists of red fanglomerate and coarse arkosic sandstone intercalated with andesite, rhyolite, rhyodacite, and local pyroclastic rocks; (2) a complex middle sequence consists of early and middle Miocene basalt, latite, silicic flows, and associated pyroclastic rocks; and (3)

the youngest sequence, of middle Miocene age, is composed of basaltic andesite and andesite.

The oldest group is exposed in scattered areas along the western edge of the field, mainly northwest and southwest of the Sauceda Mountains. The unit is characterized by steeply tilted volcanic rocks intercalated with coarse clastic sedimentary strata. Initiation of volcanism was contemporaneous with local uplift and unroofing of crystalline basement rocks. In the Ajo area (Gilluly, 1946) and Growler Mountains (Gray and others, 1984) massively bedded coarse fanglomerate consists mostly of locally derived Proterozoic granite and gneiss. The coarse fanglomerate grades upward into coarse arkosic sandstone. Volcanic interbeds are increasingly abundant in the upper part of the unit. An age of 23.8±0.8 m.y. was obtained on the volcanic rocks near Ajo Peak (fig. 1, no. 81AM176). These flows are in the upper part of the tilted fanglomerate-andesite sequence and thus represent a minimum age for the accumulation of the fanglomerates. A tuff stratigraphically above the tilted andesite-fanglomerate sequence yielded an age of 22.0±0.7 m.y. (fig. 1, no. 81AM96).

The middle unit is the most widespread of the three and forms a heterogeneous assemblage of basalt, andesite, and rhyolitic rocks. The oldest rocks in the unit are rhyolitic to rhyodacitic flows and pyroclastic tuffs. Following eruption of these, volcanism progressed westward, then southward. An eroded rhyodacite dome in a composite volcano in the Sand Tank Mountains stands approximately 300 m high. A dacite flow from the flank of the dome yields a K-Ar age of 21.8±0.7 m.y. (no. AA1128). A lava flow in the vicinity of Hat Mountain and the adjacent Sauceda Mountains is dated at 20.7±0.6 m.y. (no. 81AG206). Silicic volcanism migrated southward into the Sikort Chuapo Mountains and the Ajo Range, eventually forming the tuffaceous rocks and the rhyolitic flows of the Mt. Ajo area at around 15.4 m.y. (Tosdal, unpub. data; Jones, 1974; May and others, 1981).

Contemporaneous with silicic volcanism approximately 21 m.y. ago basalt, olivine basalt, and basaltic andesite were extruded in the region from the northern Sauceda Mountains to the southern Sand Tank Mountains. An age of 18.4±0.9 m.y. (no. 82AM61) obtained on plagioclase from that sequence is considered to be too young based on geological evidence. The basalt flows occur in a composite volcano at Cimarron Peak and in fissure eruptions elsewhere. These basalts form prominent cliffs and plateaus throughout the eastern part of the volcanic field. The most distinctive rock type of the middle sequence is a coarsely porphyritic Childs Latite in the Ajo area (Gilluly, 1946). Its stratigraphic continuity makes it useful as a

marker unit. The K-Ar age from the Childs Latite is 18.3±0.6 m.y. (no. 81AM57; see also Eberly and Stanley, 1978, no. 107).

Basaltic andesite extrusive rocks dated between 16 and 14 m.y. were the next materials to be erupted. The major source for flows in the western part of the Ajo volcanic field was Batamote Mountain, a dissected shield volcano. Minor vents and oxidized cinder-cone deposits are present in the Cipriano Hills and the Growler and Bates Mountains farther west.

The Sentinel and Pinacate basalt flows located adjacent to the northern and southwestern parts respectively, of the volcanic field, postdate most Basin and Range block faulting. These basalts range in age from 5 m.y. to recent and are not considered here as part of the Ajo Volcanic Field Tertiary sequence (Eberly and Stanley, 1978, no. 1-6).

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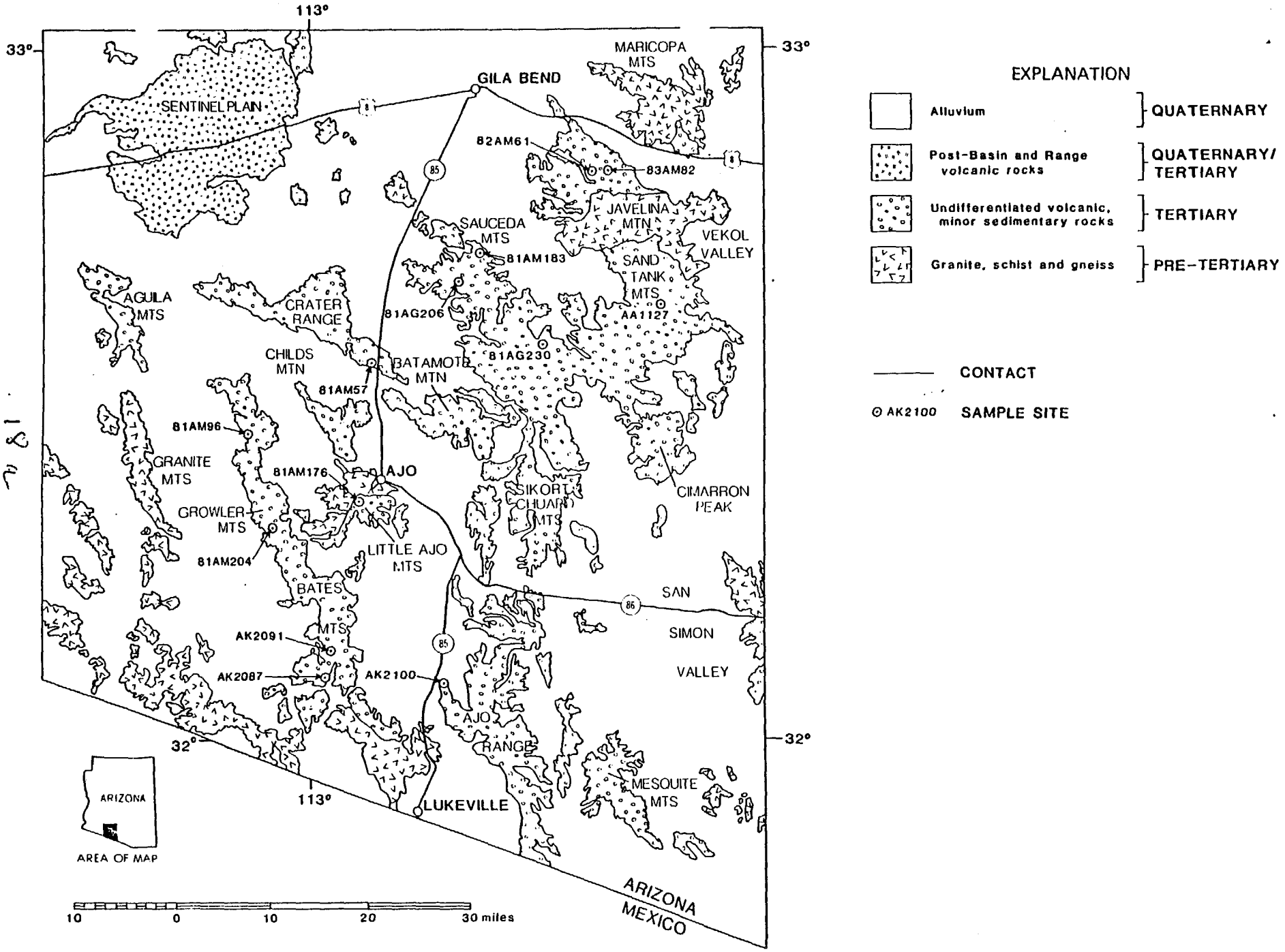

FIGURE 1. GENERALIZED GEOLOGIC MAP OF THE AJO AREA SHOWING SAMPLE LOCALITIES.

Ajo 1°x2° OFR 88-217 (p. 14).

1) 23.8-22 my BP. Earliest Miocene steeply tilted sequence of red fanglomerate and coarse arkosic sandstone intercalated with andesite, rhyolite, rhyodacite, and scattered pyroclastic rocks.

2) 22-15 my B.P. Early and middle Miocene shallowly dipping sequence of basalt, trachyandesite (Child latite), silicic flows, and associated pyroclastic rocks.

3) 16-14 my. B.P. middle Miocene relatively flat lying sequence of basaltic andesite and andesite

ASARCO

EXPLORATION DEPARTMENT

JAMES D. SELL
MANAGER

October 31, 1994

Mr. Lee Price
430 Palo Verde
Ajo, Arizona 85321

Childs Mountain Prospect
Sec. 7-8, T12S, R6W
West of Ajo District
Pima County, Arizona

Dear Mr. Price:

Your letter and packet of information to Mr. Quentin Browne of the Asarco Reno office has been retransmitted via Mr. P.G. Vikre, to me.

After reviewing the Tucson files and your submitted data, I must decline your invitation to continue a drilling program on your properties.

The weak alteration found in holes CDH-3 and -7 in the Cornelia quartz monzonite and attendant low grade copper values, with nil precious metal values, suggests the outer reaches of the mineralized system. The remaining holes, including the three by KCC, did not improve the outlook.

Thank you for submitting your prospect to Asarco.

I assume the main mass of quartz monzonite south of your claims is held by others and you were unable to test it?

Sincerely,

James D. Sell

James D. Sell

JDS:mek

cc: P.G. Vikre (Reno)

ASARCO INCORPORATED P.O. BOX 5747 TUCSON, AZ 85703
1150 NORTH 7TH AVENUE (602) 792-3010